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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/819,895	03/29/2001	Mitsuru Mochizuki	205277US2	5372

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1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

HA, DAC V

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 06/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/819,895

Applicant(s)

MOCHIZUKI ET AL.

Examiner

Dac V. Ha

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6-9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mages et al. (US 6,178,313) (hereinafter Mages).

Regarding claim 1, Mages teaches the followings:

“a power amplifier” (Figure 1, element 64; Col. 4, line 12);

“a variable gain amplifier connected in series with said power amplifier” (Figure 1, element 58; Col. 4, line 9);

“gain control means for controlling a gain of said variable gain amplifier” (Figure 1, element 46; Col. 2, lines 49-50; Col. 4, lines 35-37);

Mages also suggests the teaching of the claimed subject matter “bias voltage apply means for applying a bias voltage to said power amplifier” and “bias voltage control means for controlling the bias voltage of said power amplifier” in Figures 1, 2, element 46; Col. 2, lines 41-42, 51-52; Col. 4, lines 16-21, 60-65; Col. 5, lines 31-33, in that, the gain controller (Figure 1, element 46) teaches both the “apply means” and “control means”. Moreover, Mages teaches the use of bias current. However, controlling the bias current is effectively controlling the (bias) voltage (Col. 4, lines 64-

65). That is to say, controlling the power amplifier using a bias current or a "bias voltage" is essentially the same.

Mages further teaches the claimed subject matter "compensation means for compensating a gain variation of said power amplifier involved in controlling the bias voltage of said power amplifier by controlling the gain of said variable gain amplifier" in Figure 2, element 46; Col. 2, lines 38-45; Col. 4, lines 19-21, 38-41, 54-57, 60-62; Col. 7, lines 6-8.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to optionally utilize either a bias current or bias voltage for the controlling the power amplifier.

Regarding claim 2, Mages further teaches the claimed subject matter "wherein said bias voltage control means controls the bias voltage of said power amplifier in response to desired output power of said power amplifier" in Col. 2, lines 40-45.

Regarding claim 3, Mages further suggests the teaching of the claimed subject matter "wherein said compensation means comprises information about relationships between the desired output power of said power amplifier and the bias voltage of said power amplifier" in Figure 2, element 76; Col. 4, lines 45-50; Col. 2, lines 38-45; "and information about relationships between the bias voltage of said power amplifier and the gain said variable gain amplifier" (Col. 7, lines 44-50; Col. 2, lines 46-54; Col. 4, lines 54-57) in that, the bias current corresponds to the power control signal, the gain of the variable gain amplifier also corresponds to the same power control signal. Therefore, the gain of the variable gain amplifier also corresponds to the bias current.

Regarding claim 4, Mages further suggests the teaching of the claimed subject matter "wherein the bias voltage of said power amplifier is varied at least at two steps" in Col. 4, lines 30-34; Col. 8, lines 33-41, in that the bias (current) can be changed in any steps.

Regarding claim 5, see claim 4.

Allowable Subject Matter

3. **Claims 6-9** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mattila et al. (US 5,432,473) disclose Dual Mode Amplifier With Bias Control.

Wilson et al. (US 5,287,555) disclose Power Control Circuitry For A TDMA Radio Frequency Transmitter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dac V. Ha whose telephone number is 703-306-5536. The examiner can normally be reached on 5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Dac V. Ha', with a long horizontal line extending from the end of the signature.

Dac V. Ha
Examiner
Art Unit 2634